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AUTHOR Flanagan, John C.
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ABSTRACT

It has been proposed that the same type of aptitude and ability tests required for initial job entry be used to indicate whether an individual can continue to perform effectively in that job. A review of the nature of such tests indicates that they would be inappropriate for use in retirement decisions. A proficiency test of the kind used at the end of a job-training course would be more appropriate than a selection test. Proficiency tests are based on a comprehensive analysis of the job requirements, and thus should provide a satisfactory measure of a person's ability to perform on a job. The literature on the effects of aging on ability and performance suggests that the principal factors interfering with job performance among older adults are physical rather then mental: thus an initial screen for many jobs and retraining programs should be a physical examination. (Author/CS)

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Alternative Approaches to Retirement Testing

John C. Flanagan
American Institutes for Research

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There are two fundamental problem situations that confront the worker and the employer as retirement age is approached. The first relates to the issue of whether the affected persons can continue to perform effectively in their present jobs. The answer to this question has two parts. The first is can they perform well on their present job and the other is will they perform well. The second fundamental problem relates to placement of the older worker in another type of job when their job has either been eliminated or is no longer available for some reason.

Considering first the older worker in relation to the present job, on the surface it appears to be little more than the standard problem of performance appraisal, but actually it is much more. In addition to highly personal and sensitive aspects, the individual being evaluated is likely to be at the zenith of his or her career. For these reasons it is especially essential that evaluations be objective and valid.

Some jobs involve the development of specific products that can be evaluated. In such instances evaluating work performance is very simple as it is not difficult to get agreement on the quantity and quality of the work produced in relation to standards established as satisfactory for the job. Many other jobs, however, involve skills and activities that do not result in tangible products that can easily be evaluated objectively--executive positions are often in this category. In these situations it is very desirable to have a list of the critical requirements of the job. If such a list is not available it can be readily prepared by collecting and categorizing critical incidents based on observation of effective and ineffective performance in this or comparable job assignments. By observing the performance of the worker using a list of critical requirements for the job a record of ineffective and effective behaviors can be obtained. The performance record over a period of a few days or weeks will be adequate

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on many jobs to establish the quality of the worker's efforts in a sufficiently objective manner to justify terminating or continuing employment.

Jobs vary a great deal with respect to their importance and the ease of obtaining an accurate evaluation of the effectiveness of performance. For example, consider professional football players. At one extreme, with respect to the ease of evaluating performance, are the jobs of the offensive backs. It is very easy to record the length of punts and passes, pass completions, yardage gained, etc. At the other extreme are the offensive linemen. It is much more difficult to evaluate their performance. To make the task of evaluating the performance of these players easier motion picture films or videotapes with stop-action are carefully reviewed to determine the effectiveness of their efforts on each play. Thus the coaches have an objective, if not precisely comparable, record of performance. The decision to replace, retire, or continue to play a professional football player is made on the basis of a comprehensive and objective record of performance over a considerable period of time.

Because of the small number of outstanding players, such expensive procedures are justified. However, for many jobs in our society it is difficult to justify spending a large amount of supervisory time observing and evaluating personnel. For such jobs either a standardized assignment approach or a proficiency test can be used. The standardized assignment is designed to incorporate as many as possible of the important aspects of the job present in the regular work environment but under carefully controlled conditions. It involves the actual performance of genuine and important parts of the job in a real work situation. After the specific standardized assignment has been prepared it is used with the sample of satisfactory workers to establish standards of effective performance.

The proficiency test approach is very similar except that it is usually not administered at the work place and is clearly perceived as a test rather than a work assignment. The designer of it also tries to include as many of the critical requirements of the job as possible. Since it is perceived by those taking it to be a test it is frequently a good measure of what individuals <u>can</u> do but does not provide a measure

of what they will do. An organization that makes extensive use of proficiency tests for evaluation, retention, reclassification, and promotion is the United States Army. Because of the lack of a large number of volunteers they frequently find units failing to perform their assignments. As a first step in bringing the unit to operational effectiveness they administer the appropriate proficiency tests to all members of the unit to find out whether they can perform their assigned tasks. These tests provide the basis for decisions on training or transferring the personnel involved.

Turning to the second part of the first question, it is unfortunately not nearly as easy to evaluate whether the older workers will perform satisfactorily in their jobs even though it has been established that they can. Motivation has been found to be relatively high among older workers but there are some who appear to have lost interest in their jobs or even in working. This can only be determined by obtaining systematic records of productivity or performance.

The second question raised at the beginning of this paper concerns placement of the older worker in a new job when this becomes necessary because of the elimination of the former job or for some other reason. This becomes much closer to the usual selection and classification testing problem. The factors that tend to make it different are the age and extensive work experience of the older applicant. An extended training program cannot usually be justified when the expected tenure in the job is reduced because of the advanced age of the applicant. However, a training program is usually the best screening device for selecting from among older applicants. If the training program represents a significant investment, it will usually be desirable to use tests to screen the applicants for it.

The principal difference between the selection testing program for these applicants as compared with that for a younger group is that it should be more sharply focussed and specific. With younger groups the entrance job is frequently only the first step and potential for development and promotability are important considerations. For older workers

the question to be answered is can this person be trained for and perform effectively in a specific job. Therefore the screening test should be focussed on the critical elements of the specifc job--not potential for some future job.

Following the training program a proficiency test should be administered that reproduces as closely as possible the critical aspects of the job under carefully standardized conditions. For some jobs a substantial training program may not be necessary, especially for older experienced personnel. In these cases, following a brief introduction to the nature of the job and the types of specific tasks involved, the applicant can be given the appropriate proficiency test and the decision to hire or not hire made immediately. In some situations depending on the individual's background and previous experience, a proficiency test can be used as the initial screen with applicants to place them in one of three groups: those to be placed on the job immediately, those to be trained and tested again, and those to be rejected.

There is a serious lack of systematic studies of the job performance of older workers. Certainly by using appropriate analytic procedures it is possible to identify the aspects of job performance that should be focussed on in screening potential older workers.

One of a small number of reported efforts in the field of retraining is that of R. Meredith Belbin, M.D. Dr. Belbin worked both at Unit for Research into Problems of Industrial Retraining at Cambridge, England and with the Organization for Economic Cooperation and Development (OECD). In his activities with older workers in Great Britain, Dr. Belbin developed and applied various new training methods. He extended these procedures to four other countries through the OECD.

Dr. Belbin's approach with older workers emphasized discovery learning through controlled experiences rather than verbal instruction. His approach also emphasized avoiding both possible distractions and worker errors in developing training and retraining programs. One procedure used for avoiding errors was reducing the rate of responding. Another feature of his approach was over-learning. Great Britain developed several centers

for finding jobs for older workers using these procedures--particularly part-time jobs.

A study of the effect of age on the performance of one particular group illustrates the procedure which might be used to deal effectively with testing and personnel decisions for older workers generally. The critical incident technique was used with a group of nearly 900 aircrewmen. These personnel were asked to reply to such items as: "Older and experienced persons may still do their job as well, if not better, than they did when younger but their physical or mental reactions after a flight or to flying in general may indicate they are getting too old to fly. Describe a recent incident that you observed that illustrates the behavior of an older pilot that suggested that flying was becoming too hard on him. What was the general situation? What happened that made you think this person was getting too old to fly?"

Another question was: "Think of a recent instance when you felt that you yourself were not 'as young as you used to be' in connection with the way you performed on a flight or because of your reactions to it. How did your performance or reaction differ from what it used to be? In what way do you think age was responsible for this change?"

The 1,836 critical incidents reported were classified into five main types:

1. Changes in physical abilities required for the job. These included reduced ability to maintain alertness during rapid acceleration or deceleration; deterioration of visual functioning; deterioration of auditory functioning; and loss of agility and increased susceptibility to stiffness and fatigue.

2. Decline in both the ability and the motivation to improve essential skills. Included in this category were reports of reduced ability to divide attention between two tasks; inability to learn new skills; and problems in remembering some frequently used skills when needed.

3. Deterioration in actual job performance. This includes changes in the speed and accuracy of performance of various essential aspects of the job; inadequate preparation for a specific activity; failure to take adequate corrective action and maintain control in an emergency situation; inadequate

exercise of precautionary measures; and ineffective types of reaction to stress.

4. Ineffective relations with co-workers, usually with fatigue as a predisposing factor. The types of incidents reported in this category include inappropriate criticism of co-workers; showing hostility; and expressing feelings of superiority in relation to co-workers.

5. Morale and adjustment with respect to the job. This is shown by efforts to avoid routine assignments; complaints about working conditions; and general criticism of the nature of the job.

Unfortunately the participants in this study tended to be younger than the persons who would ordinarily be involved in retirement testing and the jobs were quite specialized. However, the study does illustrate an approach that offers substantial promise for developing general and effective procedures to use in assisting personnel decisions involving the older worker.

The literature on the effects of aging on ability and performance is another source of information for examining the problems facing older workers. A review of these studies suggests very strongly that the principal factors interfering with job performance are related to physical disabilities and health problems. Thus an initial screen for many jobs should be a physical examination.

The literature also suggests that, contrary to widespread myths, intelligence and related abilities decline only a small amount and only late in life. Tests involving vocabulary and information show very little decline until quite advanced ages. Some aspects of memory, speed of response, and perceptual-integrative functions decrease somewhat with age. Another important finding is that abilities that continue to be used tend to be retained into very advanced ages. For example, persons in jobs requiring substantial use of simple arithmetic operations have been found to retain a higher degree of proficiency in this area than equally bright individuals who are not called upon to use these skills.

Memory studies show such diverse findings for primary and secondary memory, short-term and long-term memory, effectiveness of various types of rehearsal, and retrieval deficit in older persons that it is essential that the memory test used as a screening device be as close to the precise

memory tasks involved in the specific work assignment as possible.

In conclusion it should be noted that in a national sample of persons aged 68 to 72 only four percent of the men and three percent of the women indicated that they presently had full-time paid employment. Another 13 percent of the men and nine percent of the women reported part-time paid employment. For both the men and the women an additional one percent indicated they were presently unemployed and seeking work.

These data suggest that the major programs involving testing and retraining of older workers will be related to groups aged 40 to 65 rather than to those 65 and over. However, it should be remembered that those over 65 represent an important potential resource for the nation in times of need. In normal times many of these senior citizens would benefit greatly from a screening and counseling service that would assist them in identifying appropriate activities especially of a part-time nature involving either paid employment or volunteer services. Maintaining a good personal program of interests and activities is essential to achieving full satisfaction and enjoyment from life's later years.

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